

PATENT APPLICATION NO.: 10/584,301
ATTORNEY DOCKET: 55320.000402IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Number : 10/584,301 Confirmation No.: 9824
Applicant : Henrik JENSEN, et al.
Filed : June 23, 2006
Title : METHOD AND APPARATUS FOR PRODUCTION OF A
COMPOUND HAVING SUBMICRON PARTICLE SIZE AND A
COMPOUND PRODUCED BY THE METHOD
TC/Art Unit : 1615
Examiner: : Unassigned

Docket No. : 55320.000402
Customer No. : 21967

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with 37 C.F.R. §§ 1.97 and 1.98, and in compliance with the duty of disclosure set forth in 37 C.F.R. § 1.56, applicants submit attached Form PTO-SB/08B (modified) for consideration and request the references cited therein be made of record by the U.S. Patent and Trademark Office ("USPTO") in the above-captioned application.

Applicants also wish to bring to the Examiner's attention the following co-pending U.S. patent application: U.S. Application Serial Number 10/519,142 ("the '142 application") (filed December 27, 2004). An indication of consideration of the co-pending application by the Examiner would be appreciated. Applicants have endeavored in good faith to disclose in the present application every reference submitted to the USPTO in the '142 application; however Applicants would like to point out that certain websites and other documents cited in the information disclosure statement filed November 16, 2005, in the '142 application are no longer available or have not been found after a reasonable search by Applicants. Applicants therefore refer the Examiner to the prosecution history of the '142 application for these references.

Applicants respectfully point out that the submission of the listed references in this Information Disclosure Statement is not an admission that they are prior art or that they are material to patentability of any claims of the application. Also, the submission of this Information Disclosure Statement is not an indication that a search has been made by Applicants.

For the convenience of the Examiner in considering the cited references, a copy of each of the cited references is enclosed with this communication. In considering the cited references, it may be noted by the Examiner that certain of the references may contain markings, underlinings, and/or other notations. These markings, underlinings, and/or other notations are not to be construed as drawing the Examiner's attention either to selected parts or away from other parts of the cited references. Any such markings were either present on the copies of the cited references obtained by the associated individuals, or were made thereon during the study of the references by the associated individuals.


Consideration of the foregoing plus the prompt return of a copy of the enclosed Form SB/08B with the Examiner's initials in the left column in accordance with MPEP 609 are respectfully requested.

In accordance with 37 C.F.R. § 1.97(b), this Information Disclosure Statement is believed to be submitted prior to issuance of a first Office Action. Therefore, it is respectfully submitted that no fee is required for consideration of this information. However, in the event any fee is deemed necessary, the Commissioner is authorized to charge the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,

HUNTON & WILLIAMS LLP

Dated: 10/27/06

By: 
Dwight M. Benner, II
Registration No. 52,467

Hunton & Williams LLP
Intellectual Property Department
1900 K Street, N.W.
Suite 1200
Washington, DC 20006
(202) 955-1500 (telephone)
(202) 778-2201 (facsimile)

OCT 27 2006

PTO/SB/08A (08/03) (modified)
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 10/27/2006

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Application Number 10/584,301**Filing Date** June 23, 2006**First Named Inventor** Henrik JENSEN, et al.**Art Unit** 1615**Examiner Name** Unassigned**Attorney Docket Number** 55320.000402**Sheet** 1 of 5**U.S. PATENT DOCUMENTS**

*Examiner Initials	Cite No.	DOCUMENT NUMBER Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	US- 5,833,892	11-10-1998	Gurav et al.	
	2.	US- 6,121,191	09-19-2000	Komatsu et al.	
	3.	US- 5,849,201	12-15-1998	Bradley et al.	
	4.	US- 6,005,017	12-21-1999	Daly et al.	
	5.	US- 6,265,341	07-24-2001	Komatsu et al.	
	6.	US- 6,299,778	10-09-2001	Penth et al.	
	7.	US- 5,639,441	06-17-1997	Sievers et al.	
	8.	US- 4,845,056	07-04-1989	Yamanis	
	9.	US- 5,789,027	08-04-1998	Watkins et al.	
	10.	US- 5,238,669	08-24-1993	Sullivan	
	11.	US- 6,416,682	07-09-2002	Krijgsman et al.	
	12.	US- 6,063,138	05-16-2000	Hanna et al.	
	13.	US- 2002/104599	08-08-2002	Tillotson et al.	
	14.	US- 6,387,341	05-14-2002	Sarrade et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

EXAMINER SIGNATURE /Sheng Han/**DATE CONSIDERED** 05/06/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /S.H./



Substitute for form PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

2 of 5

Application Number

10/584,301

Filing Date

June 23, 2006

First Named Inventor

Henrik JENSEN, et al.

Art Unit

1615

Examiner Name

Unassigned

Attorney Docket Number

55320.000402

FOREIGN PATENT DOCUMENTS

*Examiner Initial	Cite No.	FOREIGN PATENT DOCUMENT		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	TRANSLATION	
		Country Code Number-Kind Code (if known)					YES	NO
	15.	JP	2001-104797	04-17-2001	Hee, et al.		<input checked="" type="checkbox"/> Abstract	<input type="checkbox"/>
	16.	EP	1 199 280	04-24-2002	Weber, et al.		<input checked="" type="checkbox"/> Abstract	<input type="checkbox"/>
	17.	EP	0 366 825	05-09-1990	Brown		<input checked="" type="checkbox"/> Abstract	<input type="checkbox"/>
	18.	GB	633,845	12-30-1949	Sterling Drug Inc.,		<input type="checkbox"/>	<input type="checkbox"/>
	19.	CN	1401575	03-12-2003	Shen, et al.		<input checked="" type="checkbox"/> Abstract	<input type="checkbox"/>
	20.	WO	01/00530	01-04-2001	Duyvesteyn et al.		<input type="checkbox"/>	<input type="checkbox"/>
	21.	WO	01/12555	02-22-2001	Duyvesteyn et al.		<input type="checkbox"/>	<input type="checkbox"/>
	22.	WO	02/20396	03-14-2002	Spitler et al.		<input type="checkbox"/>	<input type="checkbox"/>
	23.	WO	01/94276	12-13-2001	Tillotson et al.		<input type="checkbox"/>	<input type="checkbox"/>
	24.	WO	01/70631	09-27-2001	Maier et al.		<input type="checkbox"/>	<input type="checkbox"/>
	25.	CN	1 364 833	08-21-2002	Lian et al.		<input checked="" type="checkbox"/> Abstract only	<input type="checkbox"/>
	26.	CN	1 310 208	08-29-2001	Yu		<input checked="" type="checkbox"/> Abstract only	<input type="checkbox"/>
	27.	CN	1 386 708	12-25-2002	Ailin et al.		<input checked="" type="checkbox"/> Abstract only	<input type="checkbox"/>
	29.	EP	0 402 405	12-15-1993	Andersen		<input type="checkbox"/>	<input type="checkbox"/>
	29.	WO	2004/001278	12-31-2003	Jensen et al.		<input type="checkbox"/>	<input type="checkbox"/>
	30.	EP	1 157 741	11-28-2001	Murasawa et al.		<input type="checkbox"/>	<input type="checkbox"/>

EXAMINER SIGNATURE

DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Application Number	10/584,301
Filing Date	June 23, 2006
First Named Inventor	Henrik JENSEN, et al.
Art Unit	1615
Examiner Name	Unassigned
Attorney Docket Number	55320.000402

Sheet 3 of 5**OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS**

*Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
	31.	Robbe, et al., "Synthesis of Fine Ceramic Oxide Particles by the Sol-Gel Process in Supercritical CO ₂ ", International Society for the Advancement of Supercritical Fluids, I.S.A.S.F., 6 th International Symposium on Supercritical Fluids, April 28-30, 2003.	<input type="checkbox"/>	<input type="checkbox"/>
	32.	Sugimoto, et al., "Synthesis of Uniform Anatase TiO ₂ Nanoparticles by Gel-sol Method 3. Formation Process and Size Control", Journal of Colloid and Interface Science, Vol. 259, pg. 43-52, 2003.	<input type="checkbox"/>	<input type="checkbox"/>
	33.	Chhor, et al., "Syntheses of Submicron TiO ₂ Powders in Vapor, Liquid and Supercritical Phases, a Comparative Study", Materials Chemistry and Physics, Vol. 32, pg. 249-254, 1992.	<input type="checkbox"/>	<input type="checkbox"/>
	34.	Jensen, et al., "Low Temperature Synthesis of Metal Oxides by a Supercritical Seed Enhanced Crystallization (SSEC) Process", Ind. Eng. Chem. Res., Vol. 45, pg. 3348-3353, 2006.	<input type="checkbox"/>	<input type="checkbox"/>
	35.	Huisman, Carolien L. et al., "Preparation of a Nanostructured Composite of Titanium Dioxide and Polythiophene: New Routes Towards 3D Heterojunction Solar Cells", Laboratory for Inorganic Chemistry, Faculty of Applied Sciences, Delft University of Technology, Julianalaan 136, 2628 BL Delft, The Netherlands.	<input type="checkbox"/>	<input type="checkbox"/>
	36.	N. Uekawa et al., "Low Temperature Synthesis and Characterization of Porous Anatase TiO ₂ Nanoparticles", Journal of Colloid and interface Science 250, 285290 (2002)	<input type="checkbox"/>	<input type="checkbox"/>
	37.	G. Beaucage and D. W. Schaefer, "Structural Studies of Complex Systems Using Small Angle Scattering: a unified Guinier/power law approach", Journal of Non-Crystalline Solids 172-174: 797-805 (1994)	<input type="checkbox"/>	<input type="checkbox"/>
	38.	J. F. Porter et al., "The effect of calcination on the microstructural characteristics and photoreactivity of degussa P-25 TiO ₂ ", J. Mat. Sci. 34: 1523-1531 (1999)	<input type="checkbox"/>	<input type="checkbox"/>
	39.	Loy, Douglas A. et al., "Direct Formation of Aerogels by Sol-Gel Polymerizations of Alkoxysilanes in Supercritical Carbon Dioxide", Chem. Mater., 1997, Vol. 9, No. 11, 2264-2268	<input type="checkbox"/>	<input type="checkbox"/>
	40.	Kendall, Jonathan L. et al., "Polymerizations in Supercritical Carbon Dioxide," Chemical Reviews 1999, Vol. 99, No. 2, 543-563	<input type="checkbox"/>	<input type="checkbox"/>

EXAMINER SIGNATURE /Sheng Han/

DATE CONSIDERED 05/06/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/584,301
		Filing Date	June 23, 2006
		First Named Inventor	Henrik JENSEN, et al.
		Art Unit	1615
		Examiner Name	Unassigned
Sheet	4 of 5	Attorney Docket Number	55320.000402

OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
	41.	Reddy et al., <i>Preparation, Characterization, and Spectral Studies on Nanocrystalline Anatase TiO₂/sub 2</i> ”; Journal of Solid State Chemistry, Vol. 158 Issue.2, 180-186 (2001)	<input type="checkbox"/>	<input type="checkbox"/>
	42.	Paul D. Moran, John R. Bartlett, Graham A. Bowmaker, James L. Woolfrey, Ralph P. Cooney, <i>Formation of TiO₂ Sol, Gels and Nanopowders from Hydrolysis of Ti(OPr)₄ in AOT Reverse Micelles</i> ”; Journal of Sol-Gel Science and Technology 15, 251-262, 1999	<input type="checkbox"/>	<input type="checkbox"/>
	43.	B. D. Stojanovic, Z. V. Marinkovic, G. O. Brankovic and E. Fridancevska, <i>Evaluation of Kinetic Data for Crystallization of TiO₂ prepared by Hydrolysis Method</i> ”; Jour. of Thermal Analysis and Calorimetry, Vol. 60, 595-604, 2000	<input type="checkbox"/>	<input type="checkbox"/>
	44.	S. Yoda et al., <i>Adsorption and Photocatalytic Decomposition of Benzene Using Silica-Titania and Titania Aerogels: Effect of Supercritical Drying</i> ”; Journal of Sol-Gel Science and Technology 22, 75-81, 2001	<input type="checkbox"/>	<input type="checkbox"/>
	45.	E. Reverchon et al., <i>Synthesis of titanium hydroxide nanoparticles in supercritical carbon dioxide on the pilot scale</i> ”; J. of Supercritical Fluids 00 (2002) 1-9	<input type="checkbox"/>	<input type="checkbox"/>
	46.	Jennifer Jung and Michel Perrut, <i>Particle design using supercritical fluids: Literature and patent survey</i> ”; Journal of Supercritical fluids 20 (2001) 179-219	<input type="checkbox"/>	<input type="checkbox"/>
	47.	www.kronosorders.com/khome.nsf, TiO ₂ , Company History, History of our TiO ₂ products	<input type="checkbox"/>	<input type="checkbox"/>
	48.	S. V. Manorama et al., <i>Photostabilization of dye on anatase titania nanoparticles polymer capping</i> ”; Journal of Physics and Chemistry of Solids, 2002, Vol. 63, No. 1, 135-143	<input type="checkbox"/>	<input type="checkbox"/>
	49.	Chhor, K. et al., <i>Syntheses of submicron TiO₂ powders in vapor, liquid and supercritical phases, a comparative study</i> ”; Materials Chemistry and Physics, 32 (1992) 249-254	<input type="checkbox"/>	<input type="checkbox"/>
	50.	G. D. Brown and J. J. Watkins, <i>Carbon Dioxide - Dilated Block Copolymer Templates for Nanostructured Materials</i> ”; Mat. Res. Soc. Symp. Proc. Vol. 584, Materials Research Society 2000, pp 169-174	<input type="checkbox"/>	<input type="checkbox"/>

EXAMINER SIGNATURE /Sheng Han/	DATE CONSIDERED 05/06/2009
--------------------------------	----------------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Substitute for form 189/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Application Number 10/584,301**Filing Date** June 23, 2006**First Named Inventor** Henrik JENSEN, et al.**Art Unit** 1615**Examiner Name** Unassigned**Sheet** 5 of 5**Attorney Docket Number** 55320.000402**OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
	51.	F. Miyaji et al., "Transition Metal Oxide Tubes Synthesized by Using Ammonium Tartrate Crystal Template", Journal of the Ceramic Society of Japan, 109 [11] 924-928 (2001)	<input type="checkbox"/>	<input type="checkbox"/>
	52.	Y. Fukushima, "Application of Supercritical Fluids", R&D review of Toyota CRDL, Vol. 35, No. 1.	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

EXAMINER SIGNATURE /Sheng Han/

DATE CONSIDERED 05/06/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.